CHAPTER – 1

INTRODUCTION

1.0 BACKGROUND
1.1 CONCEPT OF INSTITUTIONAL REPOSITORY (IR)
1.2 ISSUES AND PARAMETERS OF INSTITUTIONAL REPOSITORIES
1.3 AIM OF THE STUDY
1.4 OBJECTIVES
1.5 HYPOTHESIS
1.6 SCOPE OF THE STUDY
1.7 VARIABLES OF THE STUDY
1.8 METHODS AND MATERIALS
CHAPTER – 1

INTRODUCTION

1.0 Background

The Institutional Repositories are the intellectual capital of any institution. Computer communication facility is a strong media (both for storage and communication) to access and mobilize information from a remote place. ICT (Information Communication Technology) is becoming part and parcel of academic and research institutions both for inside and outside (intranet or Internet or extranet) information of the campus. In ICT component “information” is equally important. In India, majority of the professionals are experiencing that accessing overseas information, particularly western countries is easier than accessing Indian information or accessing information of the respective institute. The main reason for the non-accessibility of the Indian information is due to lack of developing e-information environment and putting Indian information on to the Internet or having their web. Though some of the organizations have their own web (portal) and having good Internet bandwidth, not much effort has been to feed (host the Indian Information) or even the institutional academic or research output. Hence it was felt that institutional repository is very important. Institutional Repositories need to follow some standards, guidelines and procedures to make it compatible to share with international academia and research community or organizations and also to work out the restriction and security. In this study, scope is confined to study of mechanism in mobilization of institutional information (published and unpublished information), behavior and
participation of the scientific community of the institutions and use of suitable hardware and software to host, store and disseminate the IR information. The main aspect of this study confines to the team development and role of the library and library staff in building IR system. The IR can be a digital collection for capturing and preserving the intellectual output of a single institution or multiple institutions.

The IR development depends on organizational, administrative, and cultural aspects of the institution or group of institutions. The IR system also depends on content policies, accession and retention policies, scientific activity and infrastructure of the institution. This study being new research area for library and information sciences, the study method used is a descriptive study covering most of the academic/research institutions in India and selective institutions abroad.

1.1 Concept of Institutional Repository (IR)

1. According to Clifford Lynch (2003) “An Institutional repository is an Organization based set of services which the organization offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation, where appropriate, as well as organization and access or distribution”
2. An Institutional Repository (IR) is a digital collection of a university's scholarly/creative output. Institutional repositories collect, preserve, and make accessible the knowledge generated by academic institutions. IRs also form part of a larger global system of repositories, which are indexed in a standardized way, and searchable using one interface, providing the foundation for a new model of scholarly publishing. (Drake 2004)

3. Web Definition is 'The Institutional Repository, as a concept, is to capture and make available as much of the research output of an institution (i.e. a university) as possible. In the first instance this might include material such as research papers and electronic versions of documents such as theses, but may also include many of the digital assets generated by normal campus life, such as administrative documents, course notes, or learning objects.

4. A definition adopted by SPARC publication an IR is a "digital collection for capturing and preserving the intellectual output of a single or multi-university community. (Crow 2002)

5. Wikipedia defines An Institutional Repository as an online locus for collecting and preserving -- in digital form -- the intellectual output of an institution, particularly a research institution.

6. According to Ware 2004, 'An Institutional Repository is defined to be a web-based database (repository) of scholarly material which is institutionally
defined (as opposed to a subject-based repository); cumulative and perpetual (a collection of record); open and interoperable (eg., using OAI compliant software) and thus collects, stores and disseminates (is a part of the process of the scholarly communication).

7. Tertiary Wiki: An Institutional Repository (IR) is a set of services for storing and making available digital research materials created by an institution and its community—a digital collection of the community's research output. IRs form part of a larger national, regional and global system of Open Access repositories, indexed in a standardized way and searchable using one interface.

8. Barton and Walker of MIT Libraries define Institutional Repository as repositories designed to manage, host, preserve and enable distribution of the scholarly output of an institution.

9. Institutional repositories are “a managed storage system with content deposited on a personal, departmental, institutional, national, regional, or consortial basis, providing services to designated communities, with content drawn from the range of digital resources that support learning, teaching and research” (Heery and Anderson 2005)

10. “Institutional Repositories are an electronic system that captures, preserves, and provides access to the digital work products of a community” (Foster and Gibbons 2005).
11. The 11th edition of the Oxford concise dictionary (2006) defines repository as a ‘place where, or receptacle in which, things are stored; a place where something is found in significant quantities’

A Glossary of terms related to Institutional Repositories and Open Access has been given in Appendix – 1.

1.2 Issues and Parameters of IR

1.2.1 Issues of Institutional Repositories (IR): (IR Managers/ Librarians)

- Type of Libraries / Information Centres viz Academic, Special, R&D: to understand the type of libraries with potential to set up IRs.
- Source of funding for setting up of IR: Self vs external
- To study the nature of Repositories
- Role of the librarian in setting up of IRs as against others
- Preparedness for setting up of IRs
- Platform for running the IR Software
- Internet Connectivity to provide access to IR
- Availability of OPAC to study the possibility of integration with IR
- Capability of house keeping software for IR
- Training and expertise for library staff for setting up of IR
- Management attitude towards IR
- Kinds of documents of IR
1.2.2 Parameters for IR set up

- Suitable person to take initiative for setting up of IR
- Suitable software for setting up of IR
- Preference in IR governance / structure staff for management and operation
- Types of Access levels
- Factors contributing for success of IR
- Training of library staff
- Submission of items to IR: Scientists / academicians vs. library staff
- Value added services based on IR
- Constraints affecting IR
- IR Models
- Institutional policy matters on IR
- Adherence to publisher's copyrights
- Digitization Vs born digital documents
- Criteria for functionalities for evaluation of IR systems
- Adoption of interoperability standards
- Preferred file formats for full text
- Access control mechanism adopted
» Budgetary requirement for setting up of IR
» Suitable manpower for setting up of IR
» Institutional / Individual benefits for IR
» Management structure for planning and implementation of IR
» Policy for Quality Control
» Policy for metadata selection / adoption

1.2.3 Issues and Parameters for Institutional Repositories: Users

» Education level to assess the awareness and usage of IR
» Awareness about Open Access Channels benefits of IR to users
» User awareness about IR
» Preference of document types
» Preference of bibliographic databases
» Library usage level
» Preferred library services
» Preferred web enabled information services
» Experience in self archiving of digital materials of IR
» Willingness to contribute for IR
» Benefits of IR to users
» Persons to own the copyright material
» Factors responsible for IR success
1.3 Aim of the Study

To study the problems and perspectives in design and development of IR world over, develop guidelines and evolve suitable models for Institutional Repositories.

1.4 Objectives

The IRs, as a study, has many parameters such as collecting, capturing, preserving, indexing using standards concerned and makes accessible (searchable using suitable interface and search engines) to the knowledge (digital collection) generated by academic and research institutions. The following are the specific objectives of the study.

1. To study the problems of collecting (mobilizing) published/unpublished institutional (or group of institutions) research output;

2. To identify the factors motivating the decision of the user whether or not to deposit their publications to IR;
3. To study the policy level problems and guidelines while planning and implementing IR;

4. To study the difficulties/problems encountered while designing and developing IR;

5. To study the infrastructure (both ICT and physical) requirements for setting up of IR;

6. To study the suitability of the available software, both free and commercial to develop IR;

7. To study the sustainability measures required for IR;

8. To study the standards and guidelines required for developing IR;

9. To study the expertise and manpower requirement for IR;

10. To evolve suitable models for IR system.

1.5 Hypotheses

1. An IR provides visibility, preserves the heritage, enhances the prestige of the institution, propagates and promotes the research and facilitates interaction among the scientists/academicians.

2. Success of IR depends upon suitable infrastructure, user friendly software and IR expertise.

3. Development and sustainability of IR depends upon proper planning, sound institutional policy, user's participation and training.
4. Absence of institutional policy, growth plan, time consuming IR deposition procedure and rigid IPR policies of publishers have created an apathy about IR both in the minds of librarians and the user community.

5. Authors always support free flow of scientific literature without any reservation, fear or favor.

1.6 Scope of the Study

The scope study is confined to:

- Indian Institutions having already IRs or those who are in the process of setting up;

- All Indian Institutes of higher learning and R&D like IISc, IIT's, Central Universities, CSIR laboratories, selected laboratories of DRDO, ISRO, ICAR, ICMR and DAE;

- Select Indian traditional/ state universities;

- Select public sector undertakings and private companies having R&D setups;

- Indian users/ contributors of IRs;

- Managers of IR from selected Institutions from other countries chosen from IR directories OPENDOAR and ROAR;

- Published/ Conference literature on open access and IR and websites of national/international IRs.
1.7 Variables of the Study

- Policy support
- Financial support
- Administrative support
- Technology support
  - Infrastructure
  - Software
  - Standards
- Content development
- Staff and skills
- IPR issues

1.8 Methods and Materials

Apart from deriving the findings through literature review, the study undertook descriptive survey covering IR system staff (Librarians), IR contributors and users of most of academic and research institutions. The study has also collected information on various aspects, parameters and issues concerned to IR by personal /telephonic interviews, Internet chatting, e-mailing questionnaires both directly and through list serves. Different Questionnaires were circulated to librarians/ managers of IRs and to the user community from both academic and R&D setups in India. Another questionnaire excluding questions on general library statistics and services was designed and made available on the Internet for enabling online submission by IR system managers.
of leading IRs in other countries listed out from ROAR and OPENDOAR directories. However, the online questionnaire contains all questions covering all aspects and issues concerned to IR. Since good numbers of the IRs in many countries are also managed by others like IT professionals the study has used inferential statistical analysis. The development of IR models for Indian IRs will be based on the Library and contributor/researcher/users’ perspective. Necessary guidelines to set up Institutional Repository will be evolved both from literature reviewed and findings of the study.

1.9 Chapterisation

The complete study has been divided into SIX chapters.

Chapter 1: Introduction about IR and definitions. It also deals the need for understanding the study with objectives, hypotheses, methodology and parameters of the study.

Chapter 2: IR Development covering the overview, Open Access scenario in the World and in India.

Chapter 3. Describes the review of literature on the research topic.

Chapter 4. This chapter analyzes the data collected from the questionnaires circulated among the IR Managers/Librarians and users of IR and testing of hypotheses.

Chapter 5: This chapter covers the guidelines developed for setting up of IR and also suggested IR models.
Chapter 6: This chapter covers findings of the study, suggestions and Conclusion.

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